CLAIMS

1. A light-emitting element comprising:

a first layer containing a light-emitting material;

a second layer containing an organic compound and an electron-supplying material;

a third layer including a transparent conductive film; and

a fourth layer containing a hole-transporting medium,

wherein the first layer, the second layer, the third layer and the fourth layer are sandwiched between a first electrode and a second electrode,

wherein the first layer, the second layer, the third layer, the fourth layer, and the second electrode are provided sequentially over the first electrode,

wherein the second electrode has a layer containing metal, and

wherein the transparent conductive film comprises a material selected from the group consisting of tin oxide, indium oxide, zinc oxide, zinc oxide containing gallium and molybdenum oxide.

2. A light-emitting element comprising:

a first layer containing a light-emitting material;

a second layer containing an organic compound and an electron-supplying material;

a third layer including a transparent conductive film; and

a fourth layer containing a hole-transporting medium,

wherein the first layer, the second layer, the third layer and the fourth layer are sandwiched between a first electrode and a second electrode,

wherein the first layer, the second layer, the third layer, the fourth layer, and the second electrode are provided sequentially over the first electrode,

wherein the second electrode has a layer containing metal, and

wherein the transparent conductive film is a metal which is formed thin enough to have a light transparency.

3. The light-emitting element according to claim 1 or 2, wherein the second layer further contains metal oxide.

4. The light-emitting element according to claim 1 or 2, wherein the organic compound contained in the second layer is an electron-transporting organic compound.

5. The light-emitting element according to claim 1 or 2, wherein the organic compound contained in the second layer is a metal complex having a ligand including a π-conjugated skeleton.

6. The light-emitting element according to claim 1 or 2, wherein the electron-supplying material is alkaline metal, alkaline earth metal, or rare-earth metal.

7. The light-emitting element according to claim 1 or 2, wherein the electron-supplying material is metal selected from any one or more of Li, Cs, Mg, Ca, Ba, Er, and Yb.

8. The light-emitting element according to claim 1 or 2, wherein the fourth layer is a layer containing a material having a acceptor level.

9. The light-emitting element according to claim 1 or 2, wherein the fourth layer is a layer containing a hole-transporting material including an inorganic compound.

10. The light-emitting element according to claim 9, wherein the hole-transporting material including the inorganic compound is a compound selected from any one or more of vanadium oxide, chromium oxide, molybdenum oxide, cobalt oxide, and nickel oxide.

11. The light-emitting element according to claim 1 or 2, the fourth layer is a layer containing a hole-transporting material including an organic compound.

12. The light-emitting element according to claim 11, the hole-transporting material is an organic compound having an aromatic amine skeleton.

13. The light-emitting element according to claim 1 or 2, wherein the fourth layer is a layer containing a material in which an electron-accepting material is doped to an organic compound.

14. The light-emitting element according to claim 13, wherein the organic compound is a hole-transporting material.

15. The light-emitting element according to claim 14, wherein the hole-transporting material is an organic compound having an aromatic amine skeleton.

16. The light-emitting element according to claim 13, wherein the electron-accepting material is metal oxide.

17. The light-emitting element according to claim 13, wherein the electron-accepting material is a compound selected from any one or more of molybdenum oxide, vanadium oxide, and rhenium oxide.

18. A light-emitting device comprising the light-emitting element according to claim 1 or 2, and a means for driving the light-emitting element.

19. An electronic device of which display portion is equipped with the light-emitting element according to claim 1 or 2.